<u>UK 11+ Exam 10-Minute Maths Fluency Drills</u> <u>(Week 1 Sampler)</u>

Introduction

Welcome to Week 1 of our 11+ Maths Fluency Drills programme. This sampler provides seven carefully structured 10-minute daily sessions designed to build essential mental calculation skills for 11+ examination success.

Each drill incorporates evidence-based spaced practice methods, focusing on key areas including number bonds, times tables, fractions, decimals, percentages, and mental calculation strategies. The exercises are designed to develop both speed and accuracy whilst building confidence in mathematical reasoning.

How to Use This Guide

• Timing: Each session should take exactly 10 minutes

• Structure: Each day includes warm-up, main drill, and quick-fire round

• Materials: Pencil, paper, and stopwatch/timer

• Assessment: Record scores daily to track progress

• Repetition: Repeat challenging exercises until fluent

Weekly Overview

Day	Focus Area	Key Skills	
Monday	Number Bonds & Place Value	Bonds to 100, place value, rounding	
Tuesday	Times Tables & Division	Multiplication facts, division, factors	
Wednesday	Fractions & Equivalents	Fraction recognition, equivalents, ordering	
Thursday	Decimals & Money	Decimal operations, money calculations	
Friday	Percentages & Proportion	Percentage calculations, simple proportion	
Saturday	Mental Strategies	Doubling, halving, near doubles	
Sunday	Mixed Review	All areas combined	

Day 1: Number Bonds & Place Value Drill

Total Time: 10 minutes

Warm-up (2 minutes)

Number Bonds to 100: Complete these calculations as quickly as possible.

Main Drill (6 minutes)

Place Value & Rounding: Complete the following exercises.

Part A: Write the value of the underlined digit.

Part B: Round to the nearest 10.

Part C: Round to the nearest 100.

Quick-fire Round (2 minutes)

Mental Addition: Calculate these sums quickly.

$$6.380 + 450 = _{--}$$

Day 2: Times Tables & Division Drill

Total Time: 10 minutes

Warm-up (2 minutes)

Times Tables Practice: Complete these multiplications.

$$7 \times 6 =$$

Main Drill (6 minutes)

Division & Factors: Complete the following exercises.

Part A: Division facts.

$$2.63 \div 9 =$$

$$3.56 \div 7 =$$

$$4.48 \div 6 =$$

$$5.81 \div 9 =$$

$$6.64 \div 8 =$$

$$7.42 \div 7 =$$

$$8.54 \div 6 =$$

$$9.36 \div 9 =$$

$$10.49 \div 7 =$$

Part B: Find all factors of these numbers.

- 1. Factors of 24: _____
- 2. Factors of 36: _____
- 3. Factors of 48:
- 4. Factors of 60: _____

Part C: Multiply by 10 and 100.

$$1.37 \times 10 =$$

$$2.8.4 \times 10 =$$

$$3.2.7 \times 100 =$$

$$4.0.6 \times 10 =$$

$$5.4.5 \times 100 =$$

$$6.59 \times 100 =$$

$$7.1.3 \times 10 =$$

$$8.6.8 \times 100 =$$

$$9.0.9 \times 10 =$$

$$10.3.2 \times 100 =$$

Mixed Operations: Calculate these quickly.

Day 3: Fractions & Equivalents Drill

Total Time: 10 minutes

Warm-up (2 minutes)

Fraction Recognition: Write these fractions in their simplest form.

Main Drill (6 minutes)

Equivalent Fractions & Ordering: Complete the following exercises.

Part A: Complete the equivalent fractions.

Part B: Order these fractions from smallest to largest.

Part C: Add these fractions.

$$1. 1/4 + 1/4 =$$

$$2.2/5 + 1/5 =$$

$$3.3/8 + 2/8 =$$

$$4. 1/6 + 3/6 =$$

$$5.2/7 + 3/7 =$$

$$6. 1/3 + 1/6 =$$

$$7. 1/2 + 1/4 =$$

$$8.2/3 + 1/6 =$$

$$9.3/4 + 1/8 =$$

$$10. \ 1/5 + 3/10 =$$

Fraction of amounts: Calculate these quickly.

1.
$$1/2$$
 of $24 = ___$

2.
$$1/3$$
 of $27 = ___$

3.
$$1/4$$
 of $32 = ___$

4.
$$1/5$$
 of $35 = ___$

5.
$$2/3$$
 of $18 = ___$

6.
$$3/4$$
 of $28 = ___$

7.
$$2/5$$
 of $30 = ___$

8.
$$5/6$$
 of $24 = ___$

9.
$$3/8$$
 of $32 = ___$

10.
$$4/7$$
 of $21 = ___$

Day 4: Decimals & Money Drill

Total Time: 10 minutes

Warm-up (2 minutes)

Decimal Recognition: Write these decimals in order from smallest to largest.

- 1. 0.3, 0.03, 0.33, 0.303:
- 2. 0.7, 0.07, 0.77, 0.707: _____
- 3. 0.5, 0.05, 0.55, 0.505: _____
- 4. 0.9, 0.09, 0.99, 0.909: _____
- 5. 0.2, 0.02, 0.22, 0.202:

Main Drill (6 minutes)

Decimal Operations: Complete the following exercises.

Part A: Add these decimals.

$$1.3.4 + 2.7 =$$

$$2.5.8 + 1.6 =$$

$$3.4.9 + 3.5 =$$

$$4.6.7 + 2.8 =$$

$$5.7.3 + 4.9 =$$

$$6.8.6 + 3.7 =$$

$$7.9.4 + 2.8 =$$

$$8.5.7 + 6.5 =$$

$$9.7.8 + 4.6 =$$

$$10.8.9 + 3.4 =$$

Part B: Subtract these decimals.

$$1.8.7 - 3.2 =$$

$$3.7.5 - 2.9 =$$

$$4.6.3 - 1.7 =$$

$$5.8.4 - 3.6 =$$

$$6.9.2 - 4.5 =$$

$$7.7.8 - 2.9 =$$

$$8.6.7 - 3.8 =$$

$$9.8.1 - 4.3 =$$

$$10.9.5 - 6.7 =$$

Part C: Money calculations.

$$2. £8.90 - £2.45 = £$$

$$5. £6.48 + £2.99 = £$$

Decimal conversions: Convert these quickly.

$$3. \ 3/4 = 0.$$

$$5.2/5 = 0.$$

9.
$$3/10 = 0$$
.__

10.
$$7/10 = 0$$
.___

Day 5: Percentages & Proportion Drill

Total Time: 10 minutes

Warm-up (2 minutes)

Percentage Conversions: Convert these fractions to percentages.

Main Drill (6 minutes)

Percentage Calculations: Complete the following exercises.

Part A: Find these percentages.

1.
$$10\%$$
 of $80 = ___$

$$3.25\% \text{ of } 40 = ___$$

$$5.75\%$$
 of $32 =$

6.
$$30\%$$
 of $50 = ___$

7.
$$40\%$$
 of $35 = ___$

$$8.60\%$$
 of $45 =$

9.
$$80\%$$
 of $25 =$

$$10.90\%$$
 of $20 =$

Part B: What percentage is shaded? (Imagine these are grid squares)

Part C: Simple proportion problems.

Mental percentage calculations: Calculate these quickly.

1.
$$5\%$$
 of $40 = ___$

3.
$$35\%$$
 of $40 = ____$

$$5.55\% \text{ of } 80 = _{_}$$

7.
$$85\%$$
 of $20 = ___$

8.
$$95\%$$
 of $60 = ___$

10.
$$24\%$$
 of $25 = ___$

Day 6: Mental Strategies Drill

Total Time: 10 minutes

Warm-up (2 minutes)

Doubling & Halving: Complete these calculations.

Main Drill (6 minutes)

Mental Calculation Strategies: Complete the following exercises.

Part A: Near doubles strategy. Use doubles to help you.

1.
$$24 + 25 =$$
 __ (Think: $24 + 24 + 1$)

$$2.37 + 38 =$$
 (Think: $37 + 37 + 1$)

3.
$$46 + 47 =$$
 (Think: $46 + 46 + 1$)

4.
$$58 + 59 =$$
 (Think: $58 + 58 + 1$)

5.
$$73 + 74 =$$
 (Think: $73 + 73 + 1$)

Part B: Compensation strategy. Adjust one number to make calculation easier.

1.
$$47 + 29 =$$
 (Think: $47 + 30 - 1$)

2.
$$86 + 19 =$$
 (Think: $86 + 20 - 1$)

$$3.73 + 28 =$$
 (Think: $73 + 30 - 2$)

$$4.95 + 17 = _ (Think: 95 + 20 - 3)$$

$$5.64 + 39 = (Think: 64 + 40 - 1)$$

Part C: Partitioning strategy. Break numbers into parts.

1.
$$46 + 27 =$$
 (Think: $40 + 20 + 6 + 7$)

2.
$$58 + 34 =$$
 (Think: $50 + 30 + 8 + 4$)

3.
$$73 + 19 =$$
 (Think: $70 + 10 + 3 + 9$)

4.
$$85 + 26 =$$
 ___ (Think: $80 + 20 + 5 + 6$)

$$5.67 + 18 =$$
 (Think: $60 + 10 + 7 + 8$)

Part D: Multiply by 5 strategy. Use \times 10 \div 2.

1.
$$14 \times 5 =$$
 ___ (Think: $14 \times 10 \div 2$)

2.
$$18 \times 5 =$$
 ___ (Think: $18 \times 10 \div 2$)

3.
$$26 \times 5 =$$
 ___ (Think: $26 \times 10 \div 2$)

4.
$$34 \times 5 =$$
 ___ (Think: $34 \times 10 \div 2$)

$$5.42 \times 5 =$$
 (Think: $42 \times 10 \div 2$)

Quick-fire Round (2 minutes)

Mixed mental strategies: Use any strategy to calculate quickly.

$$4.38 + 39 = _{--}$$

$$8.22 \times 5 =$$

$$9.67 + 68 =$$

$$10.399 + 29 =$$

Day 7: Mixed Review Drill

Total Time: 10 minutes

Warm-up (2 minutes)

Quick Mixed Practice: Complete these varied calculations.

$$1/4 \text{ of } 36 =$$

$$0.3 + 0.7 =$$

Main Drill (6 minutes)

Mixed Review Challenge: Complete all sections.

Section A: Number and place value.

- 1. Round 4567 to the nearest 100: _____
- 2. What is the value of 7 in 47,382? ____
- 3. Write 3.45 in words: _____

Section B: Calculations.

Section C: Fractions, decimals, and percentages.

- 1. Order: 0.6, 2/3, 65%, 5/8: ____
- $2.3/5 = __\% = 0.__$
- 3. Which is greater: 3/4 or 0.7? ____

Section D: Word problems.

- 1. A book costs £3.75. How much for 8 books? ____
- 2. Sarah has 60 stickers. She gives away 15%. How many does she keep? _____
- 3. A rectangle is 12cm long and 8cm wide. What is its area?

<u>Quick-fire Round (2 minutes)</u>

Speed Challenge: Complete as many as possible.

$$3. 2/3 \text{ of } 21 =$$

4.
$$20\%$$
 of $45 = ___$

$$5.4.8 + 3.7 =$$

7.
$$5^2 =$$

8.
$$\sqrt{36} =$$

$$9.3.6 \times 10 =$$

$$10.480 \div 10 =$$

11.
$$7 \times 9 = _{-}$$

12.
$$108 \div 9 =$$

13.
$$3/4$$
 of $24 = ____$

14.
$$75\%$$
 of $32 = ___$

17.
$$4^3 =$$

18.
$$\sqrt{64} =$$

Monday - Number Bonds & Place Value

Warm-up

53, 62, 71, 24, 37, 15, 81, 46, 8, 83

Main Drill

Part A: 5000, 70000, 200, 60, 0

Part B: 350, 580, 1260, 3960, 7240

Part C: 4600, 2400, 5700, 8100, 3100

Quick-fire Round

430, 630, 820, 840, 860, 830, 810, 830, 830, 920

Tuesday - Times Tables & Division

Warm-up

56, 54, 56, 54, 63, 48, 63, 48, 72, 42

Main Drill

Part A: 9, 7, 8, 8, 9, 8, 6, 9, 4, 7

Part B:

24: 1, 2, 3, 4, 6, 8, 12, 24

36: 1, 2, 3, 4, 6, 9, 12, 18, 36

48: 1, 2, 3, 4, 6, 8, 12, 16, 24, 48

60; 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60

Part C: 370, 84, 270, 6, 450, 5900, 13, 680, 9, 320

Quick-fire Round

84, 12, 120, 12, 117, 12, 154, 12, 192, 12

Wednesday - Fractions & Equivalents

Warm-up

1/2, 1/2, 1/2, 1/2, 1/2, 1/2, 1/2, 1/3, 1/2, 2/3

Main Drill

Part A:

$$1/2 = 4/8 = 8/16 = 10/20$$

$$1/3 = 3/9 = 4/12 = 5/15$$

$$2/3 = 6/9 = 8/12 = 10/15$$

$$3/4 = 6/8 = 9/12 = 12/16$$

$$1/5 = 2/10 = 3/15 = 4/20$$

Part B:

1/2, 5/8, 3/4, 7/8

1/6, 1/3, 2/3, 5/6

2/10, 3/5, 1/2, 7/10

2/9, 1/3, 4/9, 8/9

Part C: 2/4=1/2, 3/5, 5/8, 4/6=2/3, 5/7, 3/6=1/2, 3/4, 5/6, 7/8, 1/2

Quick-fire Round

12, 9, 8, 7, 12, 21, 12, 20, 12, 12

Thursday - Decimals & Money

Warm-up

0.03, 0.3, 0.303, 0.33

0.07, 0.7, 0.707, 0.77

0.05, 0.5, 0.505, 0.55

0.09, 0.9, 0.909, 0.99

0.02, 0.2, 0.202, 0.22

Main Drill

Part A: 6.1, 7.4, 8.4, 9.5, 12.2, 12.3, 12.2, 12.2, 12.4, 12.3

Part B: 5.5, 4.8, 4.6, 4.6, 4.8, 4.7, 4.9, 2.9, 3.8, 2.8

Part C: £8.03, £6.45, £7.45, £4.65, £9.47

Quick-fire Round

5, 25, 75, 2, 4, 6, 8, 1, 3, 7

Friday - Percentages & Proportion

Warm-up

50%, 25%, 75%, 20%, 40%, 60%, 80%, 10%, 30%, 70%

Main Drill

Part A: 8, 12, 10, 45, 24, 15, 14, 27, 20, 18

Part B: 60%, 75%, 75%, 75%, 70%

Part C: £1.00, £21.00, 90p, £2.40

Quick-fire Round

2, 3, 14, 27, 44, 26, 17, 57, 6, 6

Saturday - Mental Strategies

Warm-up

34, 19, 46, 23, 38, 27, 52, 31, 56, 39

Main Drill

Part A: 49, 75, 93, 117, 147

Part B: 76, 105, 101, 112, 103

Part C: 73, 92, 92, 111, 85

Part D: 70, 90, 130, 170, 210

Quick-fire Round

146, 254, 80, 77, 70, 43, 365, 110, 135, 428

Sunday - Mixed Review

Warm-up

56, 7, 9, 40, 1.0, 28, 5/8, 48, 4.4, 15

Main Drill

Section A: 4600, 7000, Three point four five

Section B: 536, 224, 391, 39

Section C: 5/8, 0.6, 2/3, 65%; 60%, 0.6; 3/4

Section D: £30.00, 51 stickers, 96 cm²

Quick-fire Round

72, 12, 14, 9, 8.5, 125, 25, 6, 36, 48, 63, 12, 18, 24, 3.5, 125, 64, 8, 250, 6.3

Progress Tracking

Use the table below to record daily scores and track improvement throughout the week.

Day	Warm-up Score	Main Drill Score	Quick-fire Score	Total Score	Time Taken
Monday	/10	/25	/10	/45	min
Tuesday	/10	/24	/10	/44	min
Wednesday	/10	/25	/10	/45	min
Thursday	/5	/25	/10	/40	min
Friday	/10	/24	/10	/44	min
Saturday	/10	/25	/10	/45	min
Sunday	/10	/30	/20	/60	min

Tips for Success

For Students:

- Practise daily consistency is key to building fluency
- Focus on accuracy first, then speed will follow
- Use mental strategies to make calculations easier
- Don't worry if you don't finish everything improve gradually
- Review your mistakes to understand where you went wrong

For Parents/Teachers:

- Encourage regular practice rather than long sessions
- Celebrate improvements, not just high scores
- Help identify patterns in mistakes
- Provide additional support in weaker areas
- Use positive reinforcement to maintain motivation

Next Steps

After completing Week 1, continue with weekly drills that progressively increase in difficulty. Focus on areas where scores were consistently low and celebrate areas of strength. Remember that mathematical fluency develops over time with consistent practice.

Good luck with your 11+ preparation!